

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/579,648  
Source: IFWP  
Date Processed by STIC: 5/30/06

***ENTERED***

## CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/579,648

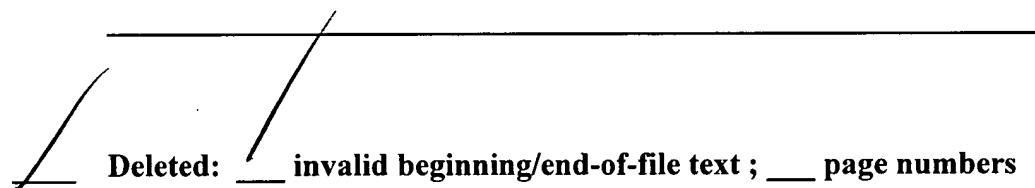
CRF Edit Date: 5/30/06  
Edited by: h

— Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

— Corrected the SEQ ID NO. Sequence numbers edited were:

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— Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

  
Deleted: \_\_\_\_\_ invalid beginning/end-of-file text ; \_\_\_\_\_ page numbers

— Inserted mandatory headings/numeric identifiers, specifically:

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— Moved responses to same line as heading/numeric identifier, specifically:

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— Other:

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IFWP

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006  
TIME: 15:45:56

Input Set : N:\AMC\PTO.AMC.txt  
Output Set: N:\CRF4\05302006\J579648.raw

4 <110> APPLICANT: BASF AKTIENGESELLSCHAFT et al.  
6 <120> TITLE OF INVENTION: METHODS FOR THE PREPARATION OF A FINE  
7 CHEMICAL BY FERMENTATION  
10 <130> FILE REFERENCE: BGI-160PC2  
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/579,648  
C--> 12 <141> CURRENT FILING DATE: 2006-05-18  
12 <150> PRIOR APPLICATION NUMBER: PCT/IB2003/006435  
13 <151> PRIOR FILING DATE: 2003-12-18  
15 <160> NUMBER OF SEQ ID NOS: 15  
17 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
19 <210> SEQ ID NO: 1  
20 <211> LENGTH: 1660  
21 <212> TYPE: DNA  
22 <213> ORGANISM: Corynebacterium glutamicum  
24 <220> FEATURE:  
25 <221> NAME/KEY: CDS  
26 <222> LOCATION: (301)...(1563)  
28 <400> SEQUENCE: 1  
29 tcggcatcct ctgggttagc gtcaacgcaa tcctcgaaac cgtcatcgca gaaaacttcg 60  
30 cacctgaggt ccgctacacc ggcgctaccc tgggttacca agtcggagca gcactcttcg 120  
31 gcggtaccgc acccattttc gcagcatggc tggcgaaat ctccggcgga caatgggtgc 180  
32 caatcgccgt ctacgtcgct gcatgttgc ttctctctgt gatcgccctcg ttcttcatcc 240  
33 aacgcgtcgc gcaccaagag aactaaaatc taagtaaaac ccctccgaaa ggaaccaccc 300  
34 atg gtg aaa cgt caa ctg ccc aac ccc gca gaa cta ctc gaa ctc atg 348  
35 Met Val Lys Arg Gln Leu Pro Asn Pro Ala Glu Leu Leu Glu Leu Met  
36 1 5 10 15  
38 aag ttc aaa aag cca gag ctc aac ggc aag aaa cga cgc cta gac tcc 396  
39 Lys Phe Lys Lys Pro Glu Leu Asn Gly Lys Lys Arg Arg Leu Asp Ser  
40 20 25 30  
42 ggc ctc acc atc tac gac ctg cgt aaa att gct aaa cga cgc acc cca 444  
43 Ala Leu Thr Ile Tyr Asp Leu Arg Lys Ile Ala Lys Arg Arg Thr Pro  
44 35 40 45  
46 gct gcc gcg ttc gac tac acc gac ggc gca gcc gag gcc gaa ctc tca 492  
47 Ala Ala Ala Phe Asp Tyr Thr Asp Gly Ala Ala Glu Ala Glu Leu Ser  
48 50 55 60  
50 atc aca cgc gca cgt gaa gca ttc gaa aac atc gaa ttc cac cca gac 540  
51 Ile Thr Arg Ala Arg Glu Ala Phe Glu Asn Ile Glu Phe His Pro Asp  
52 65 70 75 80  
54 atc ctc aag cct gca gaa cac gta gac acc acc acc caa atc ctg ggc 588  
55 Ile Leu Lys Pro Ala Glu His Val Asp Thr Thr Thr Gln Ile Leu Gly  
56 85 90 95  
58 gga acc tcc tcc atg cca ttc ggc atc gca cca acc ggc ttc acc cgc 636  
59 Gly Thr Ser Ser Met Pro Phe Gly Ile Ala Pro Thr Gly Phe Thr Arg

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006  
TIME: 15:45:57

Input Set : N:\AMC\PTO.AMC.txt  
Output Set: N:\CRF4\05302006\J579648.raw

60	100	105	110	
62	ctc atg cag acc gaa ggt gaa atc gca ggt gcc gga gct gca ggc gct			684
63	Leu Met Gln Thr Glu Gly Glu Ile Ala Gly Ala Ala Gly Ala			
64	115	120	125	
66	gca gga att cct ttc acc ctg tcc acc ctg ggc act acc tcc atc gaa			732
67	Ala Gly Ile Pro Phe Thr Leu Ser Thr Leu Gly Thr Thr Ser Ile Glu			
68	130	135	140	
70	gac gtc aag gcc acc aac ccc aac ggc cga aac tgg ttc cag ctc tac			780
71	Asp Val Lys Ala Thr Asn Pro Asn Gly Arg Asn Trp Phe Gln Leu Tyr			
72	145	150	155	160
74	gtc atg cgc gac cgc gaa atc tcc tac ggc ctc gtc gaa cgc gca gcc			828
75	Val Met Arg Asp Arg Glu Ile Ser Tyr Gly Leu Val Glu Arg Ala Ala			
76	165	170	175	
78	aaa gca gga ttc gac acc ctg atg ttc acc gtg gat acc ccc atc gcc			876
79	Lys Ala Gly Phe Asp Thr Leu Met Phe Thr Val Asp Thr Pro Ile Ala			
80	180	185	190	
82	ggc tac cgc atc cgc gat tcc cgc aac gga ttc tcc atc ccg cca cag			924
83	Gly Tyr Arg Ile Arg Asp Ser Arg Asn Gly Phe Ser Ile Pro Pro Gln			
84	195	200	205	
86	ctg acc cca tcc acc gtg ctc aat gca atc cca cgc cca tgg tgg tgg			972
87	Leu Thr Pro Ser Thr Val Leu Asn Ala Ile Pro Arg Pro Trp Trp Trp			
88	210	215	220	
90	atc gac ttc ctg acc acc cca acc ctt gag ttc gca tcc ctt tcc tcg			1020
91	Ile Asp Phe Leu Thr Thr Pro Thr Leu Glu Phe Ala Ser Leu Ser Ser			
92	225	230	235	240
94	acc ggc gga acc gtg ggc gac ctc ctc aac tcc gcg atg gat ccc acc			1068
95	Thr Gly Thr Val Gly Asp Leu Leu Asn Ser Ala Met Asp Pro Thr			
96	245	250	255	
98	att tct tac gaa gac ctc aag gtc atc cgt gaa atg tgg cca ggc aag			1116
99	Ile Ser Tyr Glu Asp Leu Lys Val Ile Arg Glu Met Trp Pro Gly Lys			
100	260	265	270	
102	ctc gta gtc aag ggt gtc cag aac gtt gaa gac tcc gtc aaa ctc ctc			1164
103	Leu Val Val Lys Gly Val Gln Asn Val Glu Asp Ser Val Lys Leu Leu			
104	275	280	285	
106	gac caa ggc gtc gac ggc ctc atc ctc tcc aac cac gac ggt ggc cgt caa			1212
107	Asp Gln Gly Val Asp Gly Leu Ile Leu Ser Asn His Gly Arg Gln			
108	290	295	300	
110	ctc gac cgc gca cca gtc cca ttc cac ctc ctg cca cag gta cgc aag			1260
111	Leu Asp Arg Ala Pro Val Pro Phe His Leu Leu Pro Gln Val Arg Lys			
112	305	310	315	320
114	gaa gtc gga tct gaa cca acc atc atg atc gac acc ggc atc atg aac			1308
115	Glu Val Gly Ser Glu Pro Thr Ile Met Ile Asp Thr Gly Ile Met Asn			
116	325	330	335	
118	ggc gcc gac atc gtc gca gcc gta gcc atg ggc gct gac ttc acc ctc			1356
119	Gly Ala Asp Ile Val Ala Val Ala Met Gly Ala Asp Phe Thr Leu			
120	340	345	350	
122	atc ggt cgt gcc tac ctc tac gga ctc atg gcc gga ggc cgc gaa ggc			1404
123	Ile Gly Arg Ala Tyr Leu Tyr Gly Leu Met Ala Gly Gly Arg Glu Gly			
124	355	360	365	

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006  
TIME: 15:45:57

Input Set : N:\AMC\PTO.AMC.txt  
Output Set: N:\CRF4\05302006\J579648.raw

126 gtc gac cgc acc atc gcc att ctc cgc agc gag atc acc cgc acc atg 1452  
127 Val Asp Arg Thr Ile Ala Ile Leu Arg Ser Glu Ile Thr Arg Thr Met  
128 370 375 380  
130 gct ctc ctc ggt gtt tcc tcc ctc gaa gaa ctc gag cca cgc cac gtc 1500  
131 Ala Leu Leu Gly Val Ser Ser Leu Glu Glu Leu Glu Pro Arg His Val  
132 385 390 395 400  
134 acc cag ctg gcc aag atg gtt cca gtt tct gac gca act cgt tct gca 1548  
135 Thr Gln Leu Ala Lys Met Val Pro Val Ser Asp Ala Thr Arg Ser Ala  
136 405 410 415  
138 gcg gcg gag att taa aagtttctct ccttagctat taaaaggtgc ccatccgttt 1603  
139 Ala Ala Glu Ile \*  
140 420  
142 ggatgggcac cttctcggtt cttgcaatcg gcataattcag tcaaaaaatg ttgaaat 1660  
144 <210> SEQ ID NO: 2  
145 <211> LENGTH: 420  
146 <212> TYPE: PRT  
147 <213> ORGANISM: Corynebacterium glutamicum  
149 <400> SEQUENCE: 2  
150 Met Val Lys Arg Gln Leu Pro Asn Pro Ala Glu Leu Leu Glu Leu Met  
151 1 5 10 15  
152 Lys Phe Lys Lys Pro Glu Leu Asn Gly Lys Lys Arg Arg Leu Asp Ser  
153 20 25 30  
154 Ala Leu Thr Ile Tyr Asp Leu Arg Lys Ile Ala Lys Arg Arg Thr Pro  
155 35 40 45  
156 Ala Ala Ala Phe Asp Tyr Thr Asp Gly Ala Ala Glu Ala Glu Leu Ser  
157 50 55 60  
158 Ile Thr Arg Ala Arg Glu Ala Phe Glu Asn Ile Glu Phe His Pro Asp  
159 65 70 75 80  
160 Ile Leu Lys Pro Ala Glu His Val Asp Thr Thr Thr Gln Ile Leu Gly  
161 85 90 95  
162 Gly Thr Ser Ser Met Pro Phe Gly Ile Ala Pro Thr Gly Phe Thr Arg  
163 100 105 110  
164 Leu Met Gln Thr Glu Gly Glu Ile Ala Gly Ala Gly Ala Gly Ala  
165 115 120 125  
166 Ala Gly Ile Pro Phe Thr Leu Ser Thr Leu Gly Thr Thr Ser Ile Glu  
167 130 135 140  
168 Asp Val Lys Ala Thr Asn Pro Asn Gly Arg Asn Trp Phe Gln Leu Tyr  
169 145 150 155 160  
170 Val Met Arg Asp Arg Glu Ile Ser Tyr Gly Leu Val Glu Arg Ala Ala  
171 165 170 175  
172 Lys Ala Gly Phe Asp Thr Leu Met Phe Thr Val Asp Thr Pro Ile Ala  
173 180 185 190  
174 Gly Tyr Arg Ile Arg Asp Ser Arg Asn Gly Phe Ser Ile Pro Pro Gln  
175 195 200 205  
176 Leu Thr Pro Ser Thr Val Leu Asn Ala Ile Pro Arg Pro Trp Trp Trp  
177 210 215 220  
178 Ile Asp Phe Leu Thr Thr Pro Thr Leu Glu Phe Ala Ser Leu Ser Ser  
179 225 230 235 240  
180 Thr Gly Gly Thr Val Gly Asp Leu Leu Asn Ser Ala Met Asp Pro Thr

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006

TIME: 15:45:57

Input Set : N:\AMC\PTO.AMC.txt

Output Set: N:\CRF4\05302006\J579648.raw

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182	Ile Ser Tyr Glu Asp Leu Lys Val Ile Arg Glu Met Trp Pro Gly Lys		
183	260	265	270
184	Leu Val Val Lys Gly Val Gln Asn Val Glu Asp Ser Val Lys Leu Leu		
185	275	280	285
186	Asp Gln Gly Val Asp Gly Leu Ile Leu Ser Asn His Gly Arg Gln		
187	290	295	300
188	Leu Asp Arg Ala Pro Val Pro Phe His Leu Leu Pro Gln Val Arg Lys		
189	305	310	315
190	Glu Val Gly Ser Glu Pro Thr Ile Met Ile Asp Thr Gly Ile Met Asn		
191	325	330	335
192	Gly Ala Asp Ile Val Ala Ala Val Ala Met Gly Ala Asp Phe Thr Leu		
193	340	345	350
194	Ile Gly Arg Ala Tyr Leu Tyr Gly Leu Met Ala Gly Gly Arg Glu Gly		
195	355	360	365
196	Val Asp Arg Thr Ile Ala Ile Leu Arg Ser Glu Ile Thr Arg Thr Met		
197	370	375	380
198	Ala Leu Leu Gly Val Ser Ser Leu Glu Glu Leu Glu Pro Arg His Val		
199	385	390	395
200	Thr Gln Leu Ala Lys Met Val Pro Val Ser Asp Ala Thr Arg Ser Ala		
201	405	410	415
202	Ala Ala Glu Ile		
203	420		
206	<210> SEQ ID NO: 3		
207	<211> LENGTH: 35		
208	<212> TYPE: DNA		
209	<213> ORGANISM: Artificial Sequence		
211	<220> FEATURE:		
212	<223> OTHER INFORMATION: Oligonucleotide		
214	<400> SEQUENCE: 3		
215	gagagagaga cgcgtccag tggctgagac gcatac		35
217	<210> SEQ ID NO: 4		
218	<211> LENGTH: 34		
219	<212> TYPE: DNA		
220	<213> ORGANISM: Artificial Sequence		
222	<220> FEATURE:		
223	<223> OTHER INFORMATION: Oligonucleotide		
225	<400> SEQUENCE: 4		
226	ctctctctgt cgacgaattc aatcttacgg cctg		34
228	<210> SEQ ID NO: 5		
229	<211> LENGTH: 4323		
230	<212> TYPE: DNA		
231	<213> ORGANISM: Corynebacterium glutamicum		
233	<400> SEQUENCE: 5		
234	tcgagaggcc tgacgtcggg cccggatcca cgcgatcatat gactagttcg gacctaggga 60		
235	tatcgatcgac atcgatgctc ttctgcgtta attaacaatt gggatcctct agacccggga 120		
236	tttaaatcgc tagcgggctg ctaaaggaag cggaacacgt agaaagccag tccgcagaaa 180		
237	cggatcgac cccggatgaa tgcgtac tggctatct ggacaaggaa aaacgcgaa 240		
238	gcaaagagaa agcaggtac ttgcgtggg cttacatggc gatacgataga ctggcggtt 300		

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006  
TIME: 15:45:57

Input Set : N:\AMC\PTO.AMC.txt  
Output Set: N:\CRF4\05302006\J579648.raw

239 ttatggacag caagcgaacc ggaattgcga gctggggcgc cctctggtaa ggttggaaag 360  
240 ccctgaaag taaactggat ggcttcttg ccgccaagga tctgatggcg cagggatca 420  
241 agatctgatc aagagacagg atgaggatcg ttgcgtatga ttgaacaaga tggattgcac 480  
242 gcagggttctc cggccgctt ggtggagagg ctatcggt atgactggc acaacagaca 540  
243 atcggctgtc ctgatgccgc cgtgttccgg ctgtcagcgc aggggcgccc gttctttt 600  
244 gtcaagaccc acctgtccgg tgccctgaat gaactgcagg acgaggcagc gcgctatcg 660  
245 tggctggcca cgacggcgct tccttgcgca gctgtgtcg acgttgcac tgaagcggga 720  
246 aggactggc tgctattggg cgaagtgcgg gggcaggatc tcctgtcatc tcacccgt 780  
247 cctgcccaga aagtatccat catggctgtat gcaatgcggc ggctgcatac gcttgatccg 840  
248 gctacctgccc catcgacca ccaagcgaaa catcgatcg agcgagcagc tactcgatg 900  
249 gaagccggtc ttgtcgatca ggatgtatcg gacgaagagc atcagggct cgcggcagcc 960  
250 gaactgttcg ccaggctcaa ggccgcgcatg cccgacggcg aggtatctcg cgtgacccat 1020  
251 ggcgatgcct gcttggcga tatcatggt gaaaatggcc gctttctgg attcatcgac 1080  
252 tggccggc tgggtgtggc ggaccgctat caggacatag cggtggctac ccgtgatatt 1140  
253 gctgaagagc ttggccggcga atgggctgac cgcttcctcg tgcttacgg tattggcgct 1200  
254 cccgattcgc agcgcatcg cttctatcg cttcttgacg agttcttctg agcgggactc 1260  
255 tgggttcga aatgaccgac caagcgacgc ccaacctgccc atcacgagat ttgattcca 1320  
256 ccggccgcctt ctatgaaagg ttgggttcg gaatcgaaa ccggggacgccc ggctggatga 1380  
257 tcctccagcg cggggatctc atgctggagt tcctcgccca cgctagcgcc ggcggccg 1440  
258 gcccgggtgaaataccgcg cagatgcgtt agggaaaaat accgcatacg gcgcgttcc 1500  
259 gtttcctcgc tcactgactc gctgcgcctcg gtcgttcggc tgccggcggc ggtatcgat 1560  
260 cactcaaagg cggttaatacg gttatccaca gaatcagggg ataacgcagg aaagaacatg 1620  
261 ttagcaaaagg gcccggggaaac ggccagggaaac cgtaaaaagg ccgcgttgc ggcgttttc 1680  
262 cataggctcc gccccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga 1740  
263 aacccgacag gactataaag ataccaggcg ttccccctg gaagctccct cgtgcgtct 1800  
264 cctgttccgcg ccctggcgct taccggatac ctgtccgcct ttctcccttc gggaaagcgtg 1860  
265 gcgcgttctc atagctcactg ctgttaggtat ctgcgttccg tgtaggtcgt tcgcgttcc 1920  
266 ctgggctgtg tgcaacgacc ccccggttcag cccgaccgct gcgccttatac cgtaactat 1980  
267 cgtcttgagt ccaacccggta aagacacgcac ttatcgccac tggcagcagc cactggtaac 2040  
268 aggatttagca gagcgaggta tgtaggcgtt gctacagagt tcttgaagtg gtggccta 2100  
269 tacggctaca ctagaaggac agtattttgtt atctgcgtc tgctgaagcc agttacctc 2160  
270 gaaaaaagag ttggtagctc ttgatccggc aaacaaaacca ccgctggtag cggtggttt 2220  
271 tttgtttgca agcagcagat tacgcgcaga aaaaaaggat ctcaagaaga tccttgcata 2280  
272 tttctacgg ggtctgacgc tcagtgaaac gaaaactcac gtttaaggat ttggctatg 2340  
273 agattatcaa aaaggatctt cacctagatc cttttaaagg ccggccgcgg ccgcatacg 2400  
274 cattttctt tgcgtttta ttgtttaact gtttaattgtc ctgttcaag gatgtgtct 2460  
275 ttgacaacag atgtttctt gccttgcgtt ttcagcagga agctggcgcc aaacgttgat 2520  
276 tggggctcg cgtagaatcc tctgtttgtc atatacgatc ttatcagcagc attgtttct 2580  
277 ttgcgttgcgtt gtagcgcgaa gtgtgagtaa gtaaaggta catcggtttagg atcaagatcc 2640  
278 atttttaaca caaggccagt ttgttcagc ggcttgcgtt ggcgcgtttaa agaatttagaa 2700  
279 acataaaccac gcatgtaaat atcggttagac gtaatgcgtt caatcgatc tttgtatcc 2760  
280 cgggagtcag tgaacaggta ccatttgcgtt ttcattttaa agacgttgcgc gcgttcaatt 2820  
281 tcatactgttta ctgtgttaga tgcaatcagc ggtttcatca ctttttcag tggtaatca 2880  
282 tcgttttagct caatcatacc gagagcgcgcg ttgtact cagccgtgcg tttttatcg 2940  
283 ctttgcagaa gtttttgcact ttcttgacgg aagaatgtt gtcgtttgc atagatgtct 3000  
284 ttgtttaata aagattcttgcctt gcttggtag ccatttcgtt ttccagtttgc tgcttcaat 3060  
285 actaagtatt tggccctt atcttctacg tagtggatgtt ctctcagcgt atggttgc 3120  
286 cctgagctgt agttgccttgc atcgatgaaatc tgctgtacat tttgatacgat tttccgtca 3180  
287 ccgtcaaaaga ttgatttata atcccttaca ccgttqatgt tcaaqaqct qtctqatqct 3240

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/579,648

DATE: 05/30/2006

TIME: 15:45:58

Input Set : N:\AMC\PTO.AMC.txt

Output Set: N:\CRF4\05302006\J579648.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

## **Raw Sequence Listing before editing (for reference only)**



IFWP

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/26/2006  
TIME: 08:25:28

Input Set : F:\SEQLIST.txt  
Output Set: N:\CRF4\05262006\J579648.raw

4 <110> APPLICANT: BASF AKTIENGESELLSCHAFT et al.  
6 <120> TITLE OF INVENTION: METHODS FOR THE PREPARATION OF A FINE  
7 CHEMICAL BY FERMENTATION  
10 <130> FILE REFERENCE: BGI-160PC2  
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/579,648  
C--> 12 <141> CURRENT FILING DATE: 2006-05-18  
12 <150> PRIOR APPLICATION NUMBER: PCT/IB2003/006435  
13 <151> PRIOR FILING DATE: 2003-12-18  
15 <160> NUMBER OF SEQ ID NOS: 15  
17 <170> SOFTWARE: FastSEQ for Windows Version 4.0

## ERRORED SEQUENCES

819 <210> SEQ ID NO: 15  
820 <211> LENGTH: 7561  
821 <212> TYPE: DNA  
822 <213> ORGANISM: Corynebacterium glutamicum  
824 <400> SEQUENCE: 15  
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826 tcagcggttt catcaactttt ttcaatgtgtat atcatcggtt agctcaatca taccgagagc 120  
827 gccgtttgc aactcaaccg tgcgtttttt atcgctttgc agaagttttt gactttcttg 180  
828 acggaagaat gatgtgtttt tgccatagta tgctttgtta aataaaagatt cttccgccttg 240  
829 gttagccatct tcagttccag ttgtttgttc aaataactaag tattttgtggc ctttatcttc 300  
830 tacgtatgtat ggtatctca gcgtatgggtt gtcgcctgag ctgtatgtgc cttcatcgat 360  
831 gaactgctgtt acatttgtat acgtttttcc gtcaccgtca aagattgttataatcctc 420  
832 tacaccgttg atgttcaaaat agctgtctga tgctgataacg ttaacttggc cagttgtcag 480  
833 ttgtttgtttt ccgtaatgtt taccggagaa atcagtgtat aataaaacgga tttttccgtc 540  
834 agatgtaaat gtggctgaac ctgaccatcc ttgtgtttgg tcttttagga tagaaatcatt 600  
835 tgcatacgat ttgtcgctgt cttaaaagac gcggccagcg tttttccagc tgtaataga 660  
836 agtttcgccc actttttgtat agaacatgtt aatcgatgtt tcataccgtat ttttaggatc 720  
837 tccggctaat gcaaaagacga tggatgttgcgtt gtcacatgtc cgtcagcggtt 780  
838 ttgttaatggc cagctgtccc aaacgtccag gcctttgca gaagagatatt ttttaattgt 840  
839 ggacgaatca aattcagaaa cttgtatattt ttcattttt tgctgttcag ggatttgcag 900  
840 catatcatgg cgtgtatattt gggaaatgcc gtatgttcc ttatatgtt tttgggttgcgt 960  
841 ttctttcgca aacgcttgcgtt ttgcgcctcc tgccagcgtt gcggtatggaa aggttaatac 1020  
842 ttgtgttgcgtt tttgtatgtt catcgatgtt gtctcctttt ttatgtactg 1080  
843 ttgttagcggtt ctgcgttcc cagccctctt gtttgaagat ggcaagtttgcgtt ttacgcacaa 1140  
844 taaaaaaaaaaaaat cttttttttttt gtaagggggtt acgcacaaat atacactttt ccctttcacac 1200  
845 attttaggtt ttgcctgtttt tatcgatgtt aaacccgcgc gatgttacttt tcgacatgtt 1260  
846 tctatttagac tctcggtttgg attgcaactg gtctatgttcc ctctttgtt tgatagaaaa 1320  
847 tcataaaaagg atttgcagac tacggggccta aagaactaaa aaatctatct gtttcttttc 1380  
848 attctctgtat tttttatag tttctgttgc atggcataa agttgcctt ttaatcaca 1440

P.4  
Does Not Comply  
Corrected Diskette Needed

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/579,648

DATE: 05/26/2006  
TIME: 08:25:29

Input Set : F:\SEQLIST.txt  
Output Set: N:\CRF4\05262006\J579648.raw

849 ttcagaaaat atcataatat ctcatttcac taaataatag tgaacggcag gtatatgtga 1500  
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851 agaaggcgat agaaggcgat gcgctcgaa tcgggagcgg cgataccgta aagcacgagg 1620  
852 aagcggtcag cccatcgcc gccaagctt tcagaataat cacgggtagc caacgctatg 1680  
853 tcctgatagc ggtccggcac acccagccgg ccacagtcg tgaatccaga aaagcggcca 1740  
854 ttttccacca tgatattcgg caagcaggca tcgccatggg tcacgaacgat atcctcgccg 1800  
855 tcgggcatcc ggcctttagg cctggcgaac agttcggctg ggcgcggccc ctgatgtct 1860  
856 tcgtccagat catcctgatc gacaagacgg gttccatcc gagtacgtgc tcgctcgatg 1920  
857 cgatgtttcg cttgggtgtc gaatgggcag gttagccggat caagcgtatg cagccgccc 1980  
858 attgcatcag ccatgatgga tactttctcg gcaggagcaa ggtgagatga caggagatcc 2040  
859 tgccccggca cttcgcccaa tagcagccag tccctcccg cttagtgc aacgtcgagc 2100  
860 acagctgcgc aaggaaacgccc cgctcggtcc agccacgata gccgcgtgc ctgcgttgg 2160  
861 agttcattca gggcacccgga caggtcggtc ttgacaaaaaa gaaccggcgccc cccctgcgt 2220  
862 gacagccgga acacggcggc atcagagcag ccgattgtct gttgtgc cgtcatagccg 2280  
863 aatagcctct ccacccaagc ggccggagaa cctgcgtgca atccatcttgc ttcaatcatg 2340  
864 cggaaacgatc ctcatcctgt ctcttgcata gatcttgcata ccctgcgtcc tcagatcctt 2400  
865 ggcggcaaga aagccatcca gtttactttc cagggttcc caaccttacc agagggcgcc 2460  
866 ccagctggca attccgggttc gtttgctgtc cataaaaccc cccagtc tag ctatcgccat 2520  
867 gtaagccac tgcaagctac ctgttttctc tttgcgttgc cgtttccct tgcgttgc 2580  
868 gcccagtagc tgacattcat cccgggttcag caccgttct gcggacttgc ttctacgtg 2640  
869 ttccgcttcc tttagcagcc cttgcgtccct gagggttgc ggcagcgtga agctagccat 2700  
870 tgcttctctg gcagttgttgc ggcggccct cgttgccacc atctggatgc cactgttgc 2760  
871 atccctctcc gaccgcgtca accgtgcagt gctctacagg atctgtgc atccatcc 2820  
872 cgtgctgatt gtcccttact acttgggtctc caacaccggc gaaatttggg cactgtttat 2880  
873 cactaccgtg attggcttc gcatcctctg ggtagcgtc aacgcaatcc tcggaaaccgt 2940  
874 catcgacaa aacttcgcac ctgagggttcg ctacaccggc gctaccctgg gttaccaagt 3000  
875 cggagcagca ctcttcggcg gtaccgcacc cattatcgca gcatggctgt tcgaaatctc 3060  
876 cggcggacaa tggtgccaa tcgcgtcta cgtcgtc tggcccttc tctctgtgat 3120  
877 cgcctcggtt tcatccaaac gctgcgcgc ccaagagaac taaaatctaa gtaaaacccc 3180  
878 tccgaaaggg accacccatg gtgaaacgtc aactgccc gcccgcagaa ctactcgac 3240  
879 tcatgaagtt caaaaagcca gagctcaacg gcaagaaacg acgcctagac tccgcgtca 3300  
880 ccatctacga cctgcgtaaa attgctaaac gacgcaccc agctgccc gtcgactaca 3360  
881 ccgacggcgc agccgaggcc gaaactctcaa tcacacgc acgtgaagca ttgaaaaca 3420  
882 tgaattcca cccagacatc ctcacgcctg cagaacacgt agacaccacc accaaatcc 3480  
883 tggcggaac ctccctccatg ccattcgca tcgcaccaac cggcttccacc cgccctcatgc 3540  
884 agaccgaagg tgaatcgca ggtgcggag ctgcaggcgc tgcaggatt ctttcaccc 3600  
885 tgccacccct gggcactacc tccatcgaa acgtcaaggc caccacccc aacggccgaa 3660  
886 actggttcca gctctacgtc atgcgcgacc gcaaatctc ctacggctc gtcgaacgcg 3720  
887 cagccaaagg aggattcgac accctgtatgt tcaccgttgc tacccttccatc gccggctacc 3780  
888 gcatccgcga ttcccgaac ggattctcca tcccgcaca gctgacccca tccaccgtgc 3840  
889 tcaatgcaat cccacccca tggtggtga tcgacttcc gaccacccc acccttgagt 3900  
890 tcgcacccct ttccctcgacc ggcggaaaccc tggcgaccc ctcacactcc gcatggatc 3960  
891 ccaccatttc ttacgaagac ctcaagggtca tccgtaaaat gtcgacccca aagctcgtag 4020  
892 tcaagggtgt ccagaacgtt gaagactccg tcaactccct cgaccaaggc gtcgacggcc 4080  
893 tcatcctctc caaccacggt ggccgtcaac tcgaccgc accagtccca ttccacccctc 4140  
894 tgccacaggt acgcaaggaa gtcggatctg aaccaaccat catgatcgac accggcatca 4200  
895 tgaacggcgc cgacatcgatc gcagccgtatc ccatggcgc tgacttccacc ctcacatcgatc 4260  
896 tgcctacccctt acgactc atggccggag gccgcgaagg cgtgcaccc accatcgcca 4320  
897 ttctccgcag cgagatcacc cgcaccatgg ctctccctgg tggccctcc ctcgaagaac 4380

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/579,648

DATE: 05/26/2006

TIME: 08:25:29

Input Set : F:\SEQLIST.txt

Output Set: N:\CRF4\05262006\J579648.raw

898 tcgagccgc ccacgtcacc cagctggcca agatggttcc agtttctgac gcaactcggt 4440  
899 ctgcagcggc ggagattta aagtttctct ctttagctat taaaagggtgc ccatccgtt 4500  
900 gnatgggcac cttctcgtt cttgaatcg gcatattcg taaaaaaatg ttgaaatcg 4560  
901 cactttcaat ttgggacatc tactcttagg agaaaagcca caaaccttc ccacccca 4620  
902 accgtgtgtt ctgcagtcga cccagtttag aggaaacatg agtgacttca cgaaaaatac 4680  
903 ttggactgtc cactacgacg aagatggta ttcccaaaa ttcttcaact ctctaaagga 4740  
904 acacgagcgt cttaggtcga cctgcaggca tgcaagcttgc gctaatatcat ggtcatagct 4800  
905 gttcctgtg taaaattgtt atccgctcac aattccacac aacatacgag cggaaagcat 4860  
906 aaagtgtaaa gcctgggtg cttaatgagt gagctaactc acattaattt cgttgcgtc 4920  
907 actgcccgtt ttccagtcgg gaaacctgtc gtgcagctg cattaatgaa tcgccaacg 4980  
908 cgccgggaga ggcgggttgc gtattggggc ctcttcgct tcctcgctca ctgactcgct 5040  
909 ggcgtcggtc gttcggctgc ggcgagcggg atcagctcac tcaaaggcgg taatacggtt 5100  
910 atccacagaa tcagggata acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc 5160  
911 caggaaccgt aaaaaggccg cggtcgtggc gttttccat aggctccgccc cccctgacga 5220  
912 gcatcacaaa aatcgcacgt caagttagag gtggcgaaac ccgcacaggac tataaagata 5280  
913 ccaggcgttt cccctggaa gtcctctgt ggcgtctct gttccgaccc tgccgcttac 5340  
914 cgatcacctg tccgccttc tcccttcggg aagcgtggcg ctttctcata gtcacgctg 5400  
915 taggtatctc agttcggtgt aggtcgttcg ctccaaagctg ggctgtgtgc acgaaccccc 5460  
916 cgttcagccc gaccgctgcg ctttatccgg taactatcgt cttgagttca acccgtaag 5520  
917 acacgactta tcgcccactgg cagcagccac tggtaacagg attagcagag cgaggtatgt 5580  
918 aggccgtgct acagagtct tgaagtggg gcctaaactac ggctacacta gaagaacagt 5640  
919 atttggtatac tgcgtctgc tgaagccagt tacttcgga aaaagagttt gtagcttttg 5700  
920 atccggcaaa caaaccaccg ctggtagcgg tggttttttt gtttgcaga agcagattac 5760  
921 ggcagaaaa aaaggatctc aagaagatcc ttgtatctt tctacggggc ctgacgctca 5820  
922 gtggaaacgaa aactcacgtt aagggattttt ggtcatgaga ttatcaaaaaa ggtcttcac 5880  
923 ctagatcctt ttgggtggg cgaagaactc cagcatgaga tcccccgct ggaggatcat 5940  
924 ccagccctga tagaaacaga agccactgga gcacctcaaa aacaccatca tacactaaat 6000  
925 cagtaagttt gcagcatcac ccgacgcact ttgcggaa taaatacctg tgacggaaga 6060  
926 tcacttcgca gaataaataa atcctgggtt ccctgttgc accgggaagc cctggccaa 6120  
927 ctttggcga aatgagacg ttgatcgcc cgtaaagaggt tccaaacttc accataatga 6180  
928 aataagatca ctaccggcg tatttttga gttatcgaga ttttcaggag ctgatagaaa 6240  
929 cagaagccac tggagcacct caaaaacacc atcatacact aatcgttac gttggcagca 6300  
930 tcacccgacg cacttgcgc cgaataaataa cctgtgacgg aagatcactt cgcagaataa 6360  
931 ataaaatctg gtgtccctgt tgataccggg aaccctggg ccaactttt gcaaaatg 6420  
932 gacgttgc tggcacgtaa aggttccaaac tttcaccata atgaaataag atcactaccg 6480  
933 ggcgtatccc ttgagttatc gagatttca ggagctttt ggcacgttct ctgcctgtc 6540  
934 ccctcagttc agtaatttcc tgcatttgc tgtttccagt cggtagatat tccacaaaac 6600  
935 agcagggaaag cagcgtttt ccgctgcata accctgcctt ggggtcatta tagcgatttt 6660  
936 ttccgtatccat ccatccctt tcgcacgata tacaggattt tgccaaagggtt tcgtgtaga 6720  
937 cttcccttgg tggatccaaac ggcgtcggcc gggcaggata ggtgaagtag gcccacccgc 6780  
938 gagccgggtgt tccttctca ctgtcccttta ttgcacccgt ggcgtgtca acggaatcc 6840  
939 tgctctgcga ggctggccgg ctaccggccgg cgtaaacagat gagggcaagc ggtggctga 6900  
940 tggaaaccaag ccaaccagga agggcagccc acctatcaag gtgtactgccc ttccagacga 6960  
941 acgaagagcgtt attgaggaaa aggccggccgc ggcggccatg agcctgtcgg cctacgtct 7020  
942 ggcgtcgcc cagggctaca aaatcacggg cgtcggtggac tatgagcagc tccgcgaggg 7080  
943 cgtcccgaa aacgattccg aagcccaacc tttcatagaa ggcggccgtg gaatcgaaat 7140  
944 ctgcgtatgg caggttggc gtcgttggt cggcatttc gtcgttacc catcggttacc 7200  
945 ttcttttgcg ttttatttg ttaactgttta attgtccttgc ttcaaggatg ctgtcttgc 7260  
946 caacaqatgt tttcttqct ttqatqttca qcarqaaqct cqccqcaaac qttqattqtt 7320

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/579,648

DATE: 05/26/2006

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Input Set : F:\SEQLIST.txt

Output Set: N:\CRF4\05262006\J579648.raw

947 tgtctgcgta gaatcctctg tttgtcatat agcttgtaat cacgacattg tttccttytc 7380  
948 gcgttggaggtt cagcgaagtg tgtagtaagta araggttaca tcgtttaggat caagatccat 7440  
949 tcttaaacaca aggccagttt tgttcagccg cttgtatggg ccagttaaag aattataaac 7500  
950 ataaccaagc atgtaaatat cgtagacgt aatgccgtca atcgtcatta ttgatccgcg 7560  
951 g

E--&gt; 953 Bgl-160Pc2

E--&gt; 956 - 1 -

*delete*

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/579,648

DATE: 05/26/2006

TIME: 08:25:30

Input Set : F:\SEQLIST.txt

Output Set: N:\CRF4\05262006\J579648.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:953 M:254 E: No. of Bases conflict, LENGTH:Input:2 Counted:7567 SEQ:15  
L:953 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:6  
L:953 M:112 C: (48) String data converted to lower case,  
M:254 Repeated in SeqNo=15  
L:955 M:252 E: No. of Seq. differs, <211> LENGTH:Input:7561 Found:7567 SEQ:15